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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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LEE, BENNY T

ART UNIT	PAPER NUMBER
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2817

NOTIFICATION DATE	DELIVERY MODE
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02/25/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/565,934	MATTERS-KAMMERER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Benny Lee	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20 January 2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: Page 1, line 3, "in which substrate" should be rephrased for idiomatic clarity. Page 2, line 12, "to very many" should be rephrased for idiomatic clarity. Page 3, line 24, note that "Or it" should be rephrased for grammatical clarity.

The disclosure is objected to because of the following informalities: Note that subheadings should be provided to delineate the different portions of the specification. Page 2, lines 31, 32, note that the reference to "claim 1" here at is inappropriate and should be deleted. Page 3, lines 26, 27, note that "By this means" should be rephrased to indicated the intended means for clarity of description. Page 4, line 27, note that "which assume them" is vague in meaning and needs clarification; line 28, note that "frequency is laid down" is vague in meaning and needs clarification. Page 10, lines 6, 21, should --, respectively-- follow "96" (line 6) & "directly" (line 21), respectively for an appropriate characterization? Clarification is needed. Appropriate correction is required.

The disclosure is objected to because of the following informalities: Note that the following reference labels appearing in the respective drawing figures need a corresponding description in the specification description of those drawing figures: FIG. 1 (11, 13); FIGS. 1, 2, (E, B); FIG. 2 (29, 30); FIGS. 3a, 3b, 8, 10, all reference labels therein, FIG. 4, the listed equalities; FIG. 5 (S(dB), f(GHz), S<sub>11</sub>); FIG. 6 (1, 2, 3); FIG. 7 (Gate 1, Gate 2, Gate 3); FIGS. 9a, 11 (b); FIG. 9b (b+2k); FIG. 11 (d). Appropriate correction is required.

The drawings are objected to because of the following: In FIG. 1, note that reference labels --d-- & --b-- should be provided such as to be commensurate with the description of FIG. 1; In FIG. 9b, note that reference label --2k-- should be provided such as to be commensurate with the description of FIG. 9b; In FIG. 12a, should reference labels “95” & “96” correctly be --93-- & --94--, respectively for consistency with the description of FIG. 12a?; similarly should reference label “93” correctly be --95-- for consistency with the description in FIG. 12b?

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s): the non-overlapping extension (e.g. claim 17) & the structures surrounded by magnetic material (e.g. claim 22). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The detail description needs to provide a corresponding description for the following: the thickness  $d$  being less than the width  $b$  as recited in claim 4; the dielectric layer surround the conductive tracks being greater than the dielectric constant of the surrounding dielectric layers as recited in claim 6; the various dielectric compositions recited in claims 9 & 10; the working frequency of 400 MHz recited in claim 11; the respective value of  $k$  being “increased” by the specified value as recited in claims 12 & 13; the non-overlapping extension as recited in claim 17; the conductive tracks surrounded by magnetic materials as recited in claim 22; the impedance of the coupling being determined by the position of the conducting track structure as recited in claim 26.

Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claim 1, note that the recitation of the “common mode impedance” of the conducting track structure being different from the “push-pull impedance” of the conducting track structure lacks an adequate written description in the detail description, such that one skilled in the art would not be able to make this aspect of the invention. That is to say, the lack of any specific disclosure as to how to configure the “conducting track structure” to provide the desired different

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impedances would have caused one skilled in the art to have been unable to make the invention in the manner intended by the applicants', without resorting to undue experimentation.

Appropriate clarification is required.

Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 3, 4, 6, 7, note that it is unclear the relationship of the "at least one capacitive element and at least one inductive element" recited in lines 3 & 4 to the subsequent recitation of "a capacitive and inductive element" (i.e. the same elements, a part thereof, separate elements, etc). Clarification is needed.

In claims 4, 5, 6, 7, 8, 12, 13, note that the recitation of the (single) "dielectric layer arranged between the opposed conducting track structure" is not definite since claim 1 recites "at least one arrangement of conducting track structures", thereby implying that more than one "opposed conducting track structure" exists and thus it would be unclear between which one of the conducting tracks is the recited (single) "dielectric layer" disposed. Clarification is needed.

In claims 4, 5, note that use of the term "preferably" renders these claims vague and indefinite since it would be unclear whether the narrower recitation of the width would have been considered a positively recited feature of these claims. Clarification is needed

In claim 9, note that reference to "the layer" is vague in meaning. That is to say, it is unclear with respect to what feature is "the layer" associated. Clarification is needed.

In claim 11, note that "the working frequency" lacks strict antecedent basis.

In claims 12, 13, note that the recitation “is increased by” is vague in meaning since it is unclear with respect to what reference is there an increase. Clarification is needed. Moreover, note that “the expected layer offset” lacks strict antecedent basis.

In claim 14, note that it is unclear how “two conducting tracks” relate to the earlier recitation of “at least one arrangement of conducting track structures” (e.g. the same track structures, different track structures, etc). Clarification is needed. Also, note that it is unclear what is intended to be referred to by the term “them”. Clarification is needed.

In claim 15, note that it is unclear which electrode layer is intended by the recitation of “two electrode layers”.

In claims 16, 17, 21, 22, note that it is unclear which one of the one or more conducting tracks is intended by the recitation of “the opposed conducting track”. Clarification is needed.

In claim 16, note that it is unclear what is intended to be referred to by the term “it”. Clarification is needed.

In claims 18, 19, note that it unclear whether the recitation “particularly earth” is intended to be a further positive limitation of the “fixed potential”. Clarification is needed.

In claim 20, note that “at least one free end” is vague in meaning since it is not clear with respect to what feature is the “free end” associated.

In claims 23, 26, note that it is unclear how “(a/the respective) conducting track structure” would respectively relate to any of the earlier recitations of the “conducting track structure”. Clarification is needed.

The following claims have been found to be objectionable for reasons set forth below:

In claim 3, line 2, note that --of-- should follow “impedance” for grammatical clarity; line 3, note that --said-- or --the-- should follow “between” for consistency in claim terminology.

In claim 13, line 3, note that --one of the electrode layers-- is suggested for consistency in claim terminology.

In claim 18, line 3, note that --in the at least one arrangement-- is suggested for consistency in claim terminology.

In claim 23, lines 3, 4, note that “coupling of the resonators between themselves” should be rephrased as --coupling between the resonators-- for clarity of description.

In claim 24, note that --said at least-- should be inserted after “between” for an appropriate characterization.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).



Claims 1-3, 7, 11, 14-16, 18, 19, 21-23, 26, 27, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama et al in view of Ralph.

Nakayama et al (Fig. 35) discloses a noise filter configured as a laminated structure comprising: a plurality of dielectric layers (i.e. laminated insulating sheets 3, 6, 14) having first and second opposing conducting layers or tracks (i.e. coils 1, 2) disposed between the dielectric layers. Note that the arrangement of coils (1, 2) and dielectric sheets (3, 6, 14) define at least one inductive element (i.e. along the coils 1, 2) and at least one capacitive element (i.e. between the opposing coils and through the dielectric sheets). Note that via hole (7) serve as a linking bridge or conducting member for electrically connecting the coils (1, 2) to each other through a respective dielectric layer (6). Also, as evident from Fig. 35, note that the via hole (7) electrically connects a starting or free end of one coil to the terminating end of the other coil to thereby place the connected points of the coils at the same fixed potential {i.e. by virtue of the electrical connection of via (7)}. Additionally, note that the input/output electrodes (e.g. 8, 9, 11, 12) directly connect with the corresponding coils (1, 2). As known to those of ordinary skill in the art, noise filters of this type are inherently defined a common mode component and a push-pull or differential component. However, Nakayama et al differs from the claimed invention in that it does not explicitly disclose that the impedance associated with the common mode component and the push-pull/differential component differ by at least a factor of two.

Ralph (Fig. 9) discloses a representative graph of odd-mode impedance (corresponding to push-pull/differential mode component in Nakayama et al) and even mode impedance (corresponding to the common mode component in Nakayama et al) as a function of line width. Note in particular that for any particular line width the odd-mode impedance and even-mode

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impedance differ by a factor of at least 10{as evidence by the difference in scale of the odd mode impedance (i.e. left hand vertical axis) as compared to the even mode impedance (right hand vertical axis)}.

Accordingly, it would have been obvious in view of the references, taken as a whole, to have designed the line widths of the conductive coils in Nakayama et al (Fig. 35) to have provided the desired even and odd mode impedances such as set forth by the representative graph in Ralph. Such a modification would have been considered an obvious design and optimization consideration within the purview of one of ordinary skill in the art, thereby suggesting the obviousness of such a modification. Accordingly, as an obvious consequence of such a modification, the even and odd mode impedances necessarily would have differences in impedance which is on the order of at least two and upwards to at least ten, as evidence by the representative graph in Fig. 9 of Ralph. Regarding claim 11, it would have been obvious to have further designed or optimize the frequency range to have been in the desired range of 400MHz, which would have been within the purview of one of ordinary skill in the art.

Regarding claim 7, note that the prior art fails to disclose that the dielectric constant of the layers is as recited. As described at column 4, line 8 in Ralph, the laminated dielectric layers in Ralph comprise a material having a dielectric constant of 9. Accordingly, it would have been obvious in view of the references, taken as a whole, to have realized the dielectric sheets in Nakayama et al to have been a material having a desired dielectric constant (e.g. a dielectric constant of 9 such as taught by Ralph). Such a modification would have been considered an obvious design or optimization of known parameters in filters, as known to those of ordinary skill in the art.

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Regarding claim 22, note that an alternate but equivalent laminated noise filter is provided with filter electrodes (e.g. 202, 203) surrounded by magnetic sheets (206 to 211). Likewise for the same reasons as set forth in the preceding paragraph, it would have been obvious in view of the teaching in Ralph to have optimize the common/even mode as well as the coupled/push-pull mode, as would have been known to those of ordinary skill in the art

Any inquiry concerning this communication should be directed to Benny Lee at telephone number 571 272 1764.

B. Lee

**/BENNY LEE/  
PRIMARY EXAMINER  
ART UNIT 2817**